CHAPTER **10**

Basic Concepts of Fitness and Physical Activity

Questions

- **What does it mean to be fit? That is, if you were to create a checklist for fitness, what would it include?**
- **A family member tells you, “Physical activity and physical fitness are the same thing.” How would you reply to them?**
- **What is more important for long-term health—fitness or physical activity?**

Objectives

- **Articulate the difference between physical fitness and physical activity.**
- **Understand the different components of health- and skill-related fitness.**
- **Describe ways to program physical activity to improve fitness.**

Understanding Fitness and Physical Activity

- **Fitness**
  - **Outcome or product of physical activity**
  - **Developed and maintained by specific type of training**
    - **Aerobic training improves aerobic fitness.**
    - **Stress reduction improves mental and emotional fitness.**

- **Physical activity**
  - **Broad concept of moving the body**
  - **Process for engaging in various types of movement**

Health-Related Fitness

- **Level of fitness needed to reduce the risk of hypokinetic diseases**
  - **Cardiovascular fitness**
  - **Muscular strength**
  - **Muscular endurance**
  - **Flexibility**
  - **Body composition**
- **Regular participation in all categories to develop and maintain health-enhancing fitness**

Skill-Related Fitness

- **Specific motor performance characteristics**
- **Different sports and activities require different fitness levels**
  - **Agility**
  - **Balance**
  - **Coordination**
  - **Speed**
  - **Power**
  - **Reaction time**
- **Specialized training required to develop these skills**

Cosmetic Fitness

- **Physical appearance can be a prime reason for participation.**
- **Cultural differences exist in what is viewed as “attractive.”**
- **Looking good can help people feel good.**
- **Body dysmorphia can lead to unhealthy exercise and nutrition habits.**
- **Helping people look good is BIG business.**
- **Genetic limitations exist.**

Dose–Response Debate

- **How much physical activity do you need to improve health or fitness?**
  - **Dose = physical activity**
  - **Response = fitness; health outcomes**
- **Greatest benefit > sedentary to moderate-intensity activity**
- **Smaller benefit > moderate to more high-intensity activity**

FITT Formula

- **Approach to help program fitness training**

- **Different recommendations for aerobic versus strength training**
  - ***Frequency:*** **How often?**
  - ***Intensity:*** **How hard?**
  - ***Time:*** **For how long?**
  - ***Type:*** **What form of activity?**

Social Gradient in Health and Fitness

- Socioeconomic impact on health and fitness
- Inequalities in distribution and access to resources
- Determinants of health
  - Affordable housing
  - Access to health care
  - Quality food sources
- Disproportional impact of economic and social inequities; people belonging to disadvantaged groups experience more severe outcomes

Fitness Training Principles

- **Training creates stimulus that leads to adaptation; adaptation in physiological systems improves function.**
- ***Specificity:*** **Adaptation is specific to the type of training.**
  - **Aerobic training improves cardiovascular endurance.**
  - **Resistance training improves muscular strength and endurance.**
- ***Overload:*** **Stimulus must go beyond current capacity to produce change.**
- ***Progression:*** **Overload must be gradually**

Exercise Programming

- ***Initial conditioning phase:*** **Preparatory phase to gradually improve tolerance to exercise**
- ***Improvement phase:*** **Progressive overload to improve specific fitness characteristics**
- ***Maintenance phase:*** **Sustain fitness changes while balancing lifestyle for long-term health**

Training for Health-Related Fitness

- **Cardiovascular endurance**
  - Steady-state, rhythmic, low- to moderate-intensity aerobic exercise (e.g., running, walking, hiking, biking, swimming)
  - High-intensity interval training (HIIT)
- **Muscular strength and endurance**
  - Progressive overload using free weights, machines, or body weight
  - High-intensity functional training (HIFT) combining aerobic, anaerobic, and resistance training (e.g., CrossFit)
- **Flexibility**
  - Regular stretching and dynamic movements to improve range of motion (e.g., yoga)

Measurement of Fitness

- **Laboratory and field tests can measure fitness components.**
- **FitnessGram tests measure health-related fitness in practical settings.**
  - **Aerobic fitness**
  - **Muscular endurance**
  - **Flexibility**
  - **Body composition**
- **Criterion-referenced tests use absolute standards based on large data sets.**

Measurement of Physical Activity

- **How much physical activity should you get each day?**
  - **Time: 30 minutes per day**
  - **Steps: >10,000 per day**
- **What intensity of physical activity should you do?**
  - **Moderate to vigorous physical activity (MVPA)**
  - **Increase heart rate or muscular effort to a degree to improve health-related fitness**
- **Wearable technology has created more opportunities to track physical activity.**

Activity

- **Discuss how you would make recommendations to improve your health-related fitness levels. What components are most important? Why?**
- **Develop a training schedule to help improve cardiovascular endurance.**
- **With a wearable device, track how many steps you get or how much time you spend in MVPA on a typical day.**

Summary

- **Physical activity and fitness are related concepts.**
  - **Physical activity is the process of movement.**
  - **Fitness is the product or specific outcome of that movement.**
- **Health-related fitness is important to reducing disease risk.**
- **Proper exercise programming is necessary for safe and effective training.**
- **Tasks/Assignments:**
- **Next Class:**